Stefan Schwietzke

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Education (Degree Programs)

8/09 - 12/13 *Doctorate*, **Carnegie Mellon University**, Pittsburgh, PA, USA Degree: Ph.D., Engineering and Public Policy

- Topics: Verification of life cycle greenhouse gas estimates of renewable and fossil energy systems using climate modeling and global-scale atmospheric methane measurements
- Completed coursework includes: decision analysis (e.g., benefit-cost-analysis, linear optimization, Monte-Carlo simulation), climate change economics
- Final grade (QPA): 3.89 (scale to 4.0)

9/02 - 12/08 *Undergraduate and post-graduate education*, **Universität Stuttgart**, Germany

- Degrees: Dipl.-Ing. Technology Management (4 semesters; M.S. equivalent), Pre-diploma Mechanical Engineering (4 semesters; B.S. equivalent)
- Thesis: “Impact of corn stover harvest for bio-energy on soil organic carbon sequestration” (1 semester)
- Grade (Final / Thesis): 1.8 / 1.3 (scale from 1.0 (best) to 4.0)

Education (Other)

7/10 **Vermont Law School**, South Royalton, VT, USA

- Coursework: "Natural Resource and Damage Assessment and Restoration"

10/04 - 4/05 **Université de La Réunion**, St.-Denis, France (DOM)

- Economics and French with Fellowship of the Baden-Württemberg State Foundation, Germany

Professional Experience

5/15 – current *Research Scientist,* **Cooperative Institute for Research in Environmental Sciences (CIRES) / University of Colorado, National Oceanographic and Atmospheric Administration (NOAA) / Global Monitoring Division (GMD)**, Boulder, CO, USA

- Atmospheric modeling of the global methane cycle
- Aircraft measurements and quantification of fugitive hydrocarbon emissions from fossil fuels
- Outreach to journalists and policy makers (e.g., *U.S. Senate Committee on Energy and Natural Resources*)
- Journal reviewer: *Environ. Sci. & Technol.*, *Waste Management*

5/14 – 4/15 *Postdoctoral Research Associate*, **NOAA/GMD**, Boulder, CO, USA

- See above

8/09 - 12/13 *Research Assistant*, **Carnegie Mellon University, Center for Climate and Energy Decision Making**, Pittsburgh, PA, USA

2/09 - 6/09 *Intern Automotive Strategy*, **PricewaterhouseCoopers AG**, Stuttgart, Germany

- Analyzed how shifts in national CO_2 emissions targets, vehicle technologies, car markets, and the global economic crisis questioned traditional business models in the automotive industry

8/07 - 12/08 *Research Assistant*, **Purdue University, Laboratory of Renewable Resources Engineering**, West Lafayette, IN, USA

- Assistant to project director for a study of the *International Energy Agency (IEA)* regarding research gaps of 2nd generation transportation biofuels
- CO_2 emissions analysis of biofuels using corn stover residue

Honors and Awards

5/15 - 4/16 Innovative Research Proposal grant, **Cooperative Institute for Research in Environmental Sciences (CIRES)**

6/14 Editors Choice Award for publication "Global bottom-up fossil fuel fugitive methane and ethane emissions inventory for atmospheric modeling", **American Chemical Society (ACS)**

5/14 – 4/15 Postdoctoral Research Associate Fellowship, **National Research Council (NRC)**

12/12 Finalist **NASA**-sponsored *FameLab* competition for science communication (regional heat)

4/12 - 3/13 Sustainability Fellowship, **ERM Foundation North-America**

2/11 Herbert L. Toor Award for outstanding research paper submitted in the Ph.D. qualifying exam, **Carnegie Mellon University**

8/09 - 9/13 Research Assistant Fellowship, **Carnegie Mellon University**

8/07 - 12/08 Research Assistant Fellowship, **Purdue University**

10/04 - 4/05 Study-abroad fellowship, **Baden-Württemberg State Foundation**

Publications

- Stefan Schwietzke, Griffin, W. M., Matthews, H. S., Bruhwiler, L. M. P. (2014). Global natural gas fugitive emissions rates constrained by atmospheric methane and ethane. *Environ. Sci. Technol. 48 (14), 7714–7722.* http://pubs.acs.org/doi/abs/10.1021/es501204c

- Stefan Schwietzke, Griffin, W. M., Matthews, H. S., Bruhwiler, L. M. P. (2014). Global bottom-up fossil fuel methane and ethane emissions inventory for atmospheric modeling. *ACS Sustain. Chem. Eng. 2 (8), 1992–2001.* http://pubs.acs.org/doi/abs/10.1021/sc500163h

- Stefan Schwietzke (2013) Atmospheric Impacts of Biofuel and Natural Gas Life Cycle Greenhouse Gas Emissions and Policy Implications. Ph.D. dissertation, Carnegie Mellon University, Pittsburgh, PA. http://repository.cmu.edu/dissertations/299

- Stefan Schwietzke, Griffin, W. M., Matthews, H. S. (2011) Relevance of emissions timing in biofuel greenhouse gases and climate impacts. *Environ. Sci. Technol.* 45 (19), 8197–8203. http://pubs.acs.org/doi/abs/10.1021/es2016236

- Stefan Schwietzke, Kim, Y. Ki, Ximenes, E. et al. (2009) Ethanol Production from Maize, p. 347-364, Chapter 23 (Molecular Genetic Approaches to Maize Improvement). In *Biotechnology in Agriculture and Forestry, Vol. 63, Springer-Verlag, Berlin*.

- Stefan Schwietzke, Ladisch, M., et al. (2008) Gaps in the Research of 2nd Generation Transportation Biofuels, *International Energy Agency*, Bioenergy: T41(2): 2008:01. http://www.ieabioenergy.com/LibItem.aspx?id=5955

- Stefan Schwietzke (2008) Impact of corn stover harvest for bio-energy on soil organic carbon sequestration. Diplomarbeit, Universität Stuttgart